



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0602; Project Identifier 2019-CE-022-AD; Amendment 39-21776; AD 2021-22-03]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Diamond Aircraft Industries GmbH Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all Diamond Aircraft Industries GmbH Model DA 42, DA 42 NG, and DA 42 M-NG airplanes. This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI identifies the unsafe condition as failure of the nose landing gear (NLG) actuator attachment lever and detachment from the NLG leg. This AD requires repetitively inspecting the NLG actuator attachment lever for cracks and damage and taking any necessary corrective actions. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria; phone: +43 2622 26700; fax: +43 2622 26780; email: [office@diamond-air.at](mailto:office@diamond-air.at); website: <https://www.diamondaircraft.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0602.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0602; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the MCAI, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Penelope Trease, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 26805 E. 68<sup>th</sup> Avenue, Denver, CO 80249; phone: (303) 342-1094; email: [penelope.trease@faa.gov](mailto:penelope.trease@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Diamond Aircraft Industries GmbH Model DA 42, DA 42 NG, and DA 42 M-NG airplanes. The NPRM published in the *Federal Register* on August 3, 2021 (86 FR 41786). The NPRM was prompted by MCAI originated by the European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union. EASA issued AD 2019-0066, dated March 27, 2019 (referred to after this as “the MCAI”), to correct an unsafe condition for Diamond Aircraft Industries GmbH (Austria) and Diamond Aircraft

Industries Inc. (Canada) Model DA 42, DA 42 M, DA 42 NG, and DA 42 M-NG airplanes. The MCAI states:

An occurrence was reported of a failed NLG actuator attachment lever, resulting in disconnection from the NLG leg. When the landing gear (LG) was retracted, the NLG actuator interfered with the rudder control rods, forcing the rudder into left-hand deflection. After lowering the LG, full rudder control was restored. The investigation results showed that the actuator lever failed due to a crack that had developed over a longer time period.

This condition, if not detected and corrected, could lead to restricted rudder travel in LG retracted configuration, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, [Diamond Aircraft Industries] DAI issued the applicable [mandatory service bulletin] MSB, providing instructions to inspect the affected part.

For the reason described above, this [EASA] AD requires repetitive inspections of the NLG leg actuator attachment lever and, depending on findings, replacement of the NLG leg.

You may examine the MCAI in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0602.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

### **Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

## **Related Service Information under 1 CFR Part 51**

The FAA reviewed Diamond Aircraft Mandatory Service Bulletin MSB 42-136/1 and MSB 42NG-078, dated January 24, 2019 (issued as one document) published with Diamond Aircraft Work Instruction WI-MSB 42-136 and WI-MSB 42NG-078, Revision 1, dated January 24, 2019 (issued as one document) attached. The service information contains procedures for repetitively inspecting the NLG actuator attachment lever and replacing the NLG leg assembly as necessary. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## **Differences Between this AD and the MCAI**

The MCAI applies to Model DA 42, DA 42 M, DA 42 NG, and DA 42 M-NG airplanes. This AD does not apply to the Model DA 42 M airplane because it does not have an FAA type certificate.

## **Costs of Compliance**

The FAA estimates that this AD affects 40 airplanes of U.S. registry. The FAA also estimates it will take about 1 work-hour per airplane to comply with the inspection required by this AD and no parts would be necessary. The average labor rate is \$85 per work-hour.

Based on these figures, the FAA estimates the inspection cost of this AD on U.S. operators to be \$3,400 or \$85 per airplane.

In addition, the FAA estimates that any necessary replacement actions will take 6 work-hours and require parts costing \$1,500, for a cost of \$2,010 per airplane. The FAA has no way of determining the number of airplanes that may need these actions.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2021-22-03 Diamond Aircraft Industries GmbH:** Amendment 39-21776; Docket No. FAA-2021-0602; Project Identifier 2019-CE-022-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Diamond Aircraft Industries GmbH Model DA 42, DA 42 NG, and DA 42 M-NG airplanes, all serial numbers, certificated in any category.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 3221, Nose/Tail Landing Gear Attach Section.

**(e) Unsafe Condition**

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and address an unsafe condition on an aviation product. The MCAI describes the unsafe condition as failure of the nose landing gear (NLG) actuator attachment lever and detachment from the NLG leg. The FAA is issuing this AD to detect and correct cracks in the NLG actuator attachment lever, which could result in restricted rudder travel with the NLG retracted and reduced airplane control.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Definition of Airworthy Part**

For the purposes of this AD, an airworthy part is an NLG leg assembly that has accumulated 1,800 or fewer hours time-in-service (TIS) since first installation on an airplane or that has passed the inspection (no cracks and no damage) required by paragraph (h)(1) of this AD.

**(h) Required Actions**

(1) Inspect the NLG actuator attachment lever for cracks and damage in the areas shown in paragraph 2 of the Instructions in Diamond Aircraft Work Instruction WI-MSB 42-136 and WI-MSB 42NG-078, Revision 1, dated January 24, 2019 (issued as one document) attached to Diamond Aircraft Mandatory Service Bulletin MSB 42-136/1 and MSB 42NG-078, dated January 24, 2019 (issued as one document) at the following applicable compliance times in paragraph (h)(1)(i) or (ii) of this AD:

(i) *For airplanes with an NLG assembly that has accumulated less than 1,800 hours TIS as of the effective date of this AD:* Within 200 hours TIS after the NLG assembly accumulates 1,800 hours TIS or within 12 months after the NLG assembly accumulates 1,800 hours TIS, whichever occurs first, and thereafter at intervals not to exceed 200 hours TIS; or

(ii) *For airplanes with an NLG assembly that has accumulated 1,800 or more hours TIS as of the effective date of this AD:* Within 210 hours TIS after the effective date

of this AD or within 12 months after the effective date of this AD, whichever occurs first, and thereafter at intervals not to exceed 200 hours TIS.

(2) After each inspection required by paragraph (h)(1) of this AD, if there is a crack or damage on the NLG actuator attachment lever, before further flight, replace the NLG leg assembly with an airworthy part as defined by this AD.

(3) As of the effective date of this AD, do not install an NLG leg assembly on any airplane unless it is an airworthy part as defined by this AD.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j)(1) of this AD or email: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(j) Related Information**

(1) For more information about this AD, contact Penelope Trease, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 26805 E. 68<sup>th</sup> Avenue, Denver, CO 80249; phone: (303) 342-1094; email: penelope.trease@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2019-0066, dated March 27, 2019, for more information. You may examine the EASA AD in the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0602.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.



(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Diamond Aircraft Mandatory Service Bulletin MSB 42-136/1 and MSB 42NG-078, dated January 24, 2019 (issued as one document) published with Diamond Aircraft Work Instruction WI-MSB 42-136 and WI-MSB 42NG-078, Revision 1, dated January 24, 2019 (issued as one document) attached.

(ii) [Reserved]

(3) For service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria; phone: +43 2622 26700; fax: +43 2622 26780; email: [office@diamond-air.at](mailto:office@diamond-air.at); website: <https://www.diamondaircraft.com>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on October 13, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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